

WHAT IS CLAIMED IS:

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1. A WDM (Wavelength Division Multiplex) terminal device located in a WDM network, through which a plurality of client signals are transmitted with their wavelengths being multiplexed, said WDM terminal device comprising:

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a first compensator that collectively compensates dispersion of each wavelength of a first plurality of client signals received through the WDM network with their wavelengths being multiplexed;

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a transmission amplifier that collectively adjusts levels of said first plurality of client signals; and

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a multiplexing unit that multiplexes a wavelength of a client signal having a single wavelength or a wavelength of at least one of a second plurality of client signals whose wavelengths are multiplexed, to wavelengths of said first plurality of client signals, and transmits said first plurality of client signals.

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2. The WDM terminal device as claimed in claim 1, further comprising:

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a separating unit that separates a third plurality of client signals to be transmitted to one place, from a fourth plurality of client signals received with their wavelengths being multiplexed, keeping wavelengths of said third plurality of client signals multiplexed;

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a second compensator that collectively

compensates dispersion of each wavelength of said third plurality of client signals; and

a reception amplifier that collectively adjusts levels of said third plurality of client signals,

wherein said separating unit transmits said third plurality of client signals to said one place, keeping the wavelengths of said third plurality of client signals multiplexed.

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3. A WDM network, through which a plurality of client signals are transmitted with their wavelengths being multiplexed, said WDM network comprising a provisioning unit that is connected to a WDM terminal device, and carries out provisioning to all WDM terminal devices, WDM-ADM (Add-Drop Multiplexer) devices, and SONET (Synchronous Optical Network) devices connected to the WDM devices, in said WDM network.

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4. The WDM network as claimed in claim 3, further comprising an alarm monitoring unit that is connected to the WDM terminal device, and monitors all the WDM terminal devices, the WDM-ADM devices, and the SONET devices for an alarming condition.

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5. The WDM network as claimed in claim 3, further comprising an output-level adjusting unit

that is connected to the WDM terminal device, and  
adjusts an output level of a signal from each WDM  
terminal device and each WDM-ADM device, based on  
signal reception levels detected at all the WDM  
5 terminal devices and the WDM-ADM devices.

10 6. A WDM-ADM device located in a WDM  
network, through which a plurality of client signals  
are transmitted with their wavelengths being  
multiplexed, said WDM-ADM device comprising:

15 a first compensator that collectively  
compensates dispersion of each wavelength of a first  
plurality of client signals received through the WDM  
network with their wavelengths being multiplexed;

20 a transmission amplifier that collectively  
adjusts levels of said first plurality of client  
signals; and

an adding unit that adds said first  
plurality of client signals to a second plurality of  
client signals whose wavelengths are multiplexed,  
keeping the wavelengths of said first plurality of  
25 client signals multiplexed, and transmits said  
second plurality of client signals.

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7. The WDM-ADM device as claimed in  
claim 6, further comprising:

35 a dropping unit that drops a third  
plurality of client signals to be transmitted to one  
place, from a fourth plurality of client signals  
received with their wavelengths being multiplexed,  
keeping wavelengths of said third plurality of

client signals multiplexed;

a second compensator that collectively compensates dispersion of each wavelength of said third plurality of client signals; and

5 a reception amplifier that collectively adjusts levels of said third plurality of client signals,

wherein said dropping unit transmits said third plurality of client signals to said one place  
10 with the wavelengths of said third plurality of client signals being multiplexed.

Approved for Release